What is Claimed Is:

1. A method for controlling particle size distribution of microparticles, comprising:

   preparing a first phase, the first phase comprising an active agent and a polymer;

   preparing a second phase;

   preparing a quench liquid;

   pumping the first phase and the second phase through a manifold that includes a plurality of static mixers to form an emulsion;

   flowing the emulsion into the quench liquid whereby droplets of the emulsion form microparticles; and

   adjusting a residence time of the emulsion in the manifold to obtain a predetermined particle size distribution of the resulting microparticles, wherein the residence time is equal to a length of the manifold divided by an average velocity of the emulsion through the manifold.

2. The method of claim 1, wherein the adjusting step is carried out to increase the residence time, thereby narrowing particle size distribution.

3. The method of claim 1, wherein the adjusting step is carried out to decrease the residence time, thereby broadening particle size distribution.

4. The method of claim 1, wherein the manifold comprises a plurality of individual static mixers configured so that the emulsion flows sequentially through the plurality of individual static mixers.

5. The method of claim 1, wherein the adjusting step is carried out by changing the length of the manifold.

6. The method of claim 1, wherein the adjusting step is carried out by changing the velocity of the emulsion in the manifold.

7. The method of claim 1, wherein the residence time is from 3 to 4 seconds.

8. The method of claim 1, wherein the residence time is less than one second.

9. The method of claim 1, wherein the manifold comprises a scissors mixing element.

10. The method of claim 1, wherein the manifold comprises a helical mixing element.

11. The method of claim 1, wherein the manifold comprises a layered mixing element.

12. A method for controlling particle size distribution of microparticles, comprising:

combining a first phase and a second phase in a manifold to form an emulsion, wherein the manifold comprises a plurality of static mixers and the first phase comprises an active agent and a polymer;

flowing the emulsion into an extraction liquid for extracting the solvent from the emulsion to form microparticles; and

adjusting a residence time of the emulsion in the manifold to obtain a predetermined particle size distribution of the resulting microparticles, wherein the residence time is equal to a length of the manifold divided by an average velocity of the emulsion through the manifold.

13. The method of claim 12, wherein the adjusting step is carried out to increase the residence time, thereby narrowing particle size distribution.

14. The method of claim 12, wherein the adjusting step is carried out to decrease the residence time, thereby broadening particle size distribution.

15. The method of claim 12, wherein the manifold comprises a plurality of individual static mixers configured so that the emulsion flows sequentially through the plurality of individual static mixers.

16. The method of claim 12, wherein the adjusting step is carried out by changing the length of the manifold.

17. The method of claim 12, wherein the adjusting step is carried out by changing the velocity of the emulsion in the manifold.

18. The method of claim 12, wherein the residence time is from 3 to 4 seconds.

19. The method of claim 12, wherein the residence time is less than one second.

20. The method of claim 12, wherein the manifold comprises a scissors mixing element.

21. The method of claim 12, wherein the manifold comprises a helical mixing element.

22. The method of claim 12, wherein the manifold comprises a layered mixing element.

23. A method for controlling particle size distribution of microparticles, comprising:

combining a first phase and a second phase in a static mixing assembly to form an emulsion, wherein the first phase comprises an active agent, a polymer, and a solvent;

flowing the emulsion into an extraction liquid for extracting the solvent from the emulsion to form microparticles; and

adjusting a velocity of the emulsion through the static mixing assembly to obtain a predetermined droplet size, wherein an average velocity of the emulsion is equal to a length of the static mixing assembly divided by the residence time of the emulsion in the static mixing assembly.

24. The method of claim 23, wherein the adjusting step is carried out to increase the droplet size, thereby broadening particle size distribution.

25. The method of claim 23, wherein the adjusting step is carried out to decrease the droplet size, thereby narrowing particle size distribution.

26. The method of claim 23, wherein the static mixing assembly comprises a plurality of individual static mixers configured so that the emulsion flows sequentially through the plurality of individual static mixers.

27. The method of claim 23, wherein the adjusting step is carried out by changing the length of the static mixing assembly.

28. The method of claim 23, wherein the static mixing assembly comprises a scissors mixing element.

29. The method of claim 23, wherein the static mixing assembly comprises a helical mixing element.

30. The method of claim 23, wherein the static mixing assembly comprises a layered mixing element.